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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* ANGELO. GUGLIELMOTTI, LORENZO POLENZANI,
ALESSANDRA ALISI, and NICOLA CAZZOLLA

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Appeal 2009-007941
Application 10/560,836
Technology Center 1600

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Oral Hearing Held: April 22, 2010

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Before ERIC B. GRIMES, JEFFREY N. FREDMAN, and
STEPHEN WALSH, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Thursday, April 22, 2010, commencing at 2:00 p.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Paula Lowery, Notary Public.

THE CLERK: Good morning. Calendar Number 71, Appeal No. 2009-007941, Mr. Cunningham.

JUDGE GRIMES: Good afternoon, Mr. Cunningham.

MR. CUNNINGHAM: Good afternoon.

JUDGE GRIMES: You have 20 minutes to present your case. You can get started whenever you're ready.

MR. CUNNINGHAM: I won't reiterate our basic argument, however, I'd like to make a point with regard to the Jorum reference.

The Jorum reference, which was applied in all the obviousness rejections, does not disclose the compound of Formula 1 that is required to practice the method of the invention, nor does it disclose the use of 5-HT4 antagonists to treat neuropathic pain.

The only references that teach the compound in Formula 1 do not in any way refer to treatment of neuropathic pain, so we're dealing with completely different sets of patients here or subjects.

Subjects with neuropathic pain, as opposed to the prior art subjects in the primary references, are subjects that have no susceptive pain.

Therefore, while Jorum and the primary references all fall within a similarly broadly defined field with regard to pain, they're not analogous in the sense that they teach different compounds and they teach different groups of subjects to be treated.

In fact, the Jorum reference does not teach the 5-HT4 antagonist at all. It teaches a different process of chemical compounds that interact with the opioid receptor.

The Examiner's obviousness rejections are premised on a faulty syllogism that any disease exhibiting the symptom of allodynia, whether it's nociceptive allodynia or allodynia associated with neuropathic pain, can be treated with a 5-HT4 antagonist.

Therefore, according to the Examiner, the neuropathic pain associated with the symptoms of allodynia or hyperalgesia can be treated with a 5-HT4 antagonist.

JUDGE WALSH: A question about allodynia. Gaster teaches that compounds of their Formula 1 can be used to treat migraines, and in the exhibits that are attached to the Brief in the evidence appendix, there is an exhibit on allodynia. That exhibit says allodynia is a clinical feature of many pain conditions, such as migraine, post-herpetic neuralgia and others. Does that exhibit mean that migraine is associated with allodynia because allodynia is a clinical feature of migraines? If Gaster's teaching treats migraines, why isn't that the same as treating allodynia?

MR. CUNNINGHAM: Allodynia is a symptom. It's not the disease itself. Neuropathic pain has different structures associated with the generation and origin of the neuropathic pain. In other words, injury to the nerves, whereas Gaster is referring to multiceptive pain.

Now, allodynia can be a symptom of either a nociceptive diseases or disorders taught by Gaster, or it can also be a symptom of neuropathic pain.

JUDGE WALSH: There is a dependent claim that says wherein the patients of Claim 6 have allodynia. So is that a subset of patients being treated in Claim 6? If so, is it a subset that's fairly reflected by Gaster's disclosure?

MR. CUNNINGHAM: No, it would not be fairly reflective of Gaster because the claims require treatment of a subject that has neuropathic pain, which is caused by damaged nerves. Whereas the Gaster patients are under a completely different group associated with conditions exhibiting nociceptive pain.

JUDGE FREDMAN: Isn't allodynia pretty much a well-recognized feature of neuropathic pain?

MR. CUNNINGHAM: According to the references cited by the Examiner, it is a symptom of some types of neuropathic pain. It's not necessarily completely characteristic of neuropathic pain, but it can be one symptom of that.

JUDGE WALSH: One more area I'd like you to talk about, again relating to Gaster's disclosure of treating migraine.

In another of the exhibits that is attached to the Brief, there's an article on migraine; and it says under the heading pathophysiology, "Current thinking is that a phenomena known as cortical spreading depression is responsible for migraine."

Is cortical spreading depression a condition that's associated with neuropathic pain?

MR. CUNNINGHAM: I'm not an expert on that particular point. However --

JUDGE FREDMAN: The definition, according to the ISP, is pain initiated or caused by a lesion of the nervous system.

This reference seems to say that we have -- the neuro imaging techniques which appear to show migraine is primarily a disorder of the brain neurologically, not of the blood vessels.

The implication of that definition, in concert with this path of physiology, is that migraine itself, at least in part, is a form of neuropathic pain.

MR. CUNNINGHAM: I don't believe that Gaster says that migraine is a form of neuropathic pain.

JUDGE FREDMAN: No, we're not providing Gaster to say that. This is migraine from Wikipedia, which -- did they submit?

JUDGE WALSH: Yes, this was submitted as part of the evidence appendix.

JUDGE FREDMAN: So Gaster himself teaches that migraine, obviously, is treated with this compound.

The question is: is migraine itself a neuropathic disease or not? Given the definition neuropathic pain in this type of physiology, there's a suggestion at least of a tight connection between migraine and neuropathic pain.

MR. CUNNINGHAM: The Berstein reference, which was cited in the second issue, refers to the migraine. Refers to a number of migraine synthesization factors on pages 1706 and 1707, and various potential mechanisms of generation of pain and migraine.

However, it does not in any way correlate migraine with neuropathic pain or nerve damage. In fact, the Berstein reference actually teaches away from the Examiner's arguments because on page 1707 --

JUDGE FREDMAN: Does Berstein actually talk about the actual path of physiology, or about the triggers that cause migraine? That's different than what's actually happening in the Brief, right?

Presumably, with migraine something is happening in the brain to cause the migraine, right? There's a trigger that causes that, but it's the pathophysiology that determines whether it's neuropathic or not, not the trigger. The trigger is simply whatever cause is inducing that pathophysiology.

MR. CUNNINGHAM: I think the distinction that I'd like to make is that the prior art that's been applied here does not indicate that migraine is caused by some damage to the nerves. It could be, you know, the mechanism or the triggers that are disclosed by Berstein, for instance, which we regard as various mechanisms.

Berstein at 1706 the second column indicates since it is peripheral nociceptors and various sensitivities to other neurons may be associated as triggers to migraine. However, it doesn't correlate these to neuropathic pain. Did I make that distinction?

JUDGE FREDMAN: I hear the distinction you're making.

JUDGE GRIMES: I have a different question. It seems to me that the Examiner's rationale for combining Gaster, Smith and Jorum is that Gaster teaches the compounds that are in your claims and says they're 5-HT4 receptor antagonists.

Smith teaches that a different compound having the same activity potentiates the treatment with a different compound for allodynic pain.

Jorum teaches that allodynia is a frequent symptom in neuropathic pain.

Therefore, it would be obvious to treat the allodynia and neuropathic pain with a 5-HT4 receptor antagonist, like the one taught by Gaster, in combination with this other compound.

What's wrong with that rationale?

MR. CUNNINGHAM: The symptom of allodynia associated with neuropathic pain is distinct because it has a different origin.

JUDGE GRIMES: How does this differ from teaching inflammation resulting from one thing and inflammation resulting from another? You're still treating the symptom, right? You're treating the inflammation. In the Examiner's reasoning, you're treating the symptom of allodynia, and the treatment is going to be the same regardless of the cause of allodynia. Do we have any evidence that allodynia has to be treated differently depending on what causes it?

MR. CUNNINGHAM: Well, I don't think prior art establishes that the allodynia associated with neuropathic pain has the same origin or the same cause.

It would have a different origin because it's associated with nerve damage, whereas the allodynia -- for instance, intestinal allodynia is caused by the stimulation of the intestines by the balloon that's used in the experimental model.

JUDGE GRIMES: Granted, but where's the evidence that the difference in cause requires a difference in treatment? That's my question.

MR. CUNNINGHAM: I think it's the Examiner's burden to indicate that the allodynia associated with neuropathic pain has the same origin and would be treated in the same way that you would treat other diseases that exhibit that symptom.

It's worth noting that the claims are directed to treatment of neuropathic pain, not to the treatment of allodynia; and not to the treatment of –

JUDGE GRIMES: But if you're treating a patient with neuropathic pain, even if you're treating a symptom not the underlying cause of the symptom,

aren't you still treating the patient?
MR. CUNNINGHAM: Well, there's no expectation that treatment with the compounds required by the claim of Formula 1 would have any effect at all on neuropathic pain, or on allodynia associated with neuropathic pain. I'd like to make sure I'm clearly distinguishing between the disease and the symptoms. The symptoms of allodynia can be exhibited by nociceptive disorders or by neuropathic disorders.
However, as indicated in the specification, the treatment of neuropathic pain originating from nerve damage is quite difficult, and drugs that work for treating nociceptive pain conditions, including symptoms like allodynia, don't necessarily work for neuropathic pain because of the different origin of the pain.
One is associated with structural damage to the nervous system. The other is associated with stimulation of nociceptive receptors.
JUDGE GRIMES: Where does the spec talk about different compounds being required? Different treatments being required for the different kinds of pain?
MR. CUNNINGHAM: Page 2, line 10 of the specification indicates that neuropathic pain is notoriously difficult to treat; and I would refer the Board's attention to the background section.
There are also some in the reference to Berstein applied by the Examiner. There are also teachings away from using 5-HT antagonist to treat migraine. In fact, page 1707 at the bottom of the second column indicates that migraine can be treated with agonist to this 5-HT if not antagonist.
JUDGE WALSH: That is page 1707?
MR. CUNNINGHAM: Page 1707 at the bottom of the second column.

JUDGE GRIMES: Of course, that's a different class of compounds than the ones in Gaster. Gaster is 5-HT4, this is 5-HT1-b, 1-d.

MR. CUNNINGHAM: Gaster does refer to 5-HT4, but they're in the same family. Also, Jorum teaches opioid receptor drugs that stimulate the opioid receptor. It doesn't have anything to do with serotonin or 5-HT receptors as Gaster.

So the distinction I'd like to make, again, is Jorum is not analogous art because it doesn't teach the compound. It teaches you can use an opioid compound to treat the neuropathic pain.

However, the other references that do teach the 5-HT4 or the compounds of Formula 1 don't teach treating the class of subjects that have neuropathic pain.

JUDGE WALSH: If the Examiner relied on Jorum for a fact, that is that cold allodynia and hyperalgesia are frequent clinical findings in patients with neuropathic pain, if I recall the Examiner's answer that's the only thing the Examiner cited in Jorum.

Does it make any difference that Jorum's kind of therapy doesn't have any relation to what the claimed therapy is? It was just used as a fact reference.

MR. CUNNINGHAM: Well, the first sentence in the Jorum abstract indicates that allodynia and hyperalgesia are frequent clinical findings in patients with neuropathic pain. However, Jorum isn't concerned with the same method of treatment used by the inventors using a different compound; and the Examiner has applied Jorum -- basically, for that teaching that frequent clinical findings in patients with neuropathic pain include the symptoms of allodynia and hyperalgesia.

Jorum wasn't relied on for teaching treatment of these particular symptoms, but even if it were, it's using a completely different drug and class of chemical compounds to treat those symptoms.

JUDGE GRIMES: Any more questions?

JUDGE FREDMAN: I don't think so.

JUDGE GRIMES: Thank you.

MR. CUNNINGHAM: Thank you.

Whereupon, the proceedings at 2:20 p.m. were concluded.